

Listing of Claims

1-33. (Cancelled).

1 34. (Original) A method for enabling vaccination of a patient against infectious diseases,
2 comprising the steps of:

- 3 a) treating hookworm infection to a degree sufficient to increase lymphocyte
4 proliferation; and
5 b) vaccinating said patient against said infectious disease.

1 35. (Original) The method of claim 34 wherein said infectious disease is selected from the group
2 consisting of HIV, tuberculosis, malaria, measles, tetanus, diphtheria, pertussis, and polio.

1 36. (Original) A method for enabling hookworm vaccination, comprising the steps of:
2 a) chemically treating a hookworm infected patient to ameliorate hookworm infection;
3 and
4 b) vaccinating said patient with a recombinant or synthetic antigen or fragment thereof
5 derived from hookworm after amelioration of hookworm infection.

37-97. (Cancelled)

1 98. (Previously presented) A composition comprising:
2 a cocktail of recombinant or synthetic antigens derived from hookworm, and,
3 a pharmacologically acceptable carrier.

1 99. (Previously presented) The composition of claim 98, wherein said composition comprises at
2 least one larval stage antigen and at least one adult stage antigen.

1 100. (Previously presented) The composition of claim 98, wherein said antigen is ASP-1, ASP-2,
2 MTP-1, 103 (SAA), 16, GST or an antigen having at least 80% homology therewith.

1 101. (Previously presented) The composition of claim 98, wherein said antigen is selected from
2 the group consisting of GST, CP-2, APR-1, APR-2, MEP-1, TMP or an antigen having at least
3 80% homology therewith.

1 102. (Previously presented) The composition of claim 98, wherein a species of said hookworm is
2 selected from the group consisting of *Necator americanus*, *Ancylostoma caninum*, *Ancylostoma*
3 *ceylanicum*, and *Ancylostoma duodenale*.

1 103. (Previously presented) A method of vaccinating or eliciting an immune response to
2 hookworm in a mammal, comprising the step of,
3 administering to said mammal an effective amount of a composition comprising
4 a recombinant or synthetic antigen derived from hookworm, and
5 a pharmacologically acceptable carrier.

1 104. (Previously presented) The method of claim 103 wherein said composition includes
2 a cocktail of recombinant or synthetic antigens derived from hookworm, and,
3 a pharmacologically acceptable carrier.

1 105. (Previously presented) The method of claim 103, wherein said composition comprises at
2 least one larval stage antigen and at least one adult stage antigen.

1 106. (Previously presented) The method of claim 103, wherein said antigen is ASP-1, ASP-2,
2 MTP-1, 103 (SAA), 16, GST, or an antigen having at least 80% homology therewith.

- 1 107. (Previously presented) The method of claim 103, wherein said antigen is selected from the
2 group consisting of GST, CP-2, APR-1, APR-2, MEP-1, TMP, or an antigen having at least 80%
3 homology therewith. .
- 1 108. (Previously presented) The method of claim 103, wherein a species of said hookworm is
2 selected from the group consisting of *Necator americanus*, *Ancylostoma caninum*, *Ancylostoma*
3 *ceylanicum*, and *Ancylostoma duodenale*.
- 1 109. (Previously presented) The method of claim 103, further comprising the step of chemically
2 treating a hookworm- infected patient prior to said step of administering.
- 1 110. (Previously presented) A method of reducing blood loss in a patient infected with
2 hookworm, comprising the step of
3 administering to said patient an effective amount of a composition comprising
4 a recombinant or synthetic antigen derived from hookworm, and
5 a pharmacologically acceptable carrier.
- 1 111. (Previously presented) The method of claim 110 wherein said composition includes
2 a cocktail of recombinant or synthetic antigens derived from hookworm, and,
3 a pharmacologically acceptable carrier.
- 1 112. (Previously presented) The method of claim 110, wherein said composition comprises at
2 least one larval stage antigen and at least one adult stage antigen.
- 1 113. (Previously presented) The method of claim 110, wherein said antigen is ASP-1, ASP-2,
2 MTP-1, 103 (SAA), 16, GST, or an antigen having at least 80% homology therewith.

1 114. (Previously presented) The method of claim 110, wherein said antigen is selected from the
2 group consisting of GST, CP-2, APR-1, APR-2, MEP-1, TMP, or an antigen having at least 80%
3 homology therewith.

1 115. (Previously presented) The method of claim 110, wherein a species of said hookworm is
2 selected from the group consisting of *Necator americanus*, *Ancylostoma caninum*, *Ancylostoma*
3 *ceylanicum*, and *Ancylostoma duodenale*.

1 116. (Previously presented) The method of claim 110, further comprising the step of chemically
2 treating a hookworm- infected patient prior to said step of administering.

1 117. (Previously presented) A method of reducing hookworm size, or quantitative egg count or
2 hookworm burden in a patient infected with hookworm, comprising the step of
3 administering to said mammal an effective amount of a composition comprising
4 a recombinant or synthetic antigen derived from hookworm, and
5 a pharmacologically acceptable carrier.

1 118. (Previously presented) The method of claim 117 wherein said composition includes
2 a cocktail of recombinant or synthetic antigens derived from hookworm, and,
3 a pharmacologically acceptable carrier.

1 119. (Previously presented) The method of claim 117, wherein said composition comprises at
2 least one larval stage antigen and at least one adult stage antigen.

1 120. (Previously presented) The method of claim 117, wherein said antigen is ASP-1, ASP-2,
2 MTP-1, 103, 16, GST, or an antigen having at least 80% homology therewith.

1 121. (Previously presented) The method of claim 117, wherein said antigen is selected from the
2 group consisting of GST, CP-2, APR-1, APR-2, MEP-1, TMP, or an antigen having at least 80%
3 homology therewith. .

1 122. (Previously presented) The method of claim 117, wherein a species of said hookworm is
2 selected from the group consisting of *Necator americanus*, *Ancylostoma caninum*, *Ancylostoma*
3 *ceylanicum*, and *Ancylostoma duodenale*.

1 123. (Previously presented) The method of claim 117, further comprising the step of chemically
2 treating a hookworm- infected patient prior to said step of administering.

1 124. (Previously presented) A method of decreasing L3 migration across skin of a mammal,
2 comprising the step of
3 administering to said mammal an effective amount of a composition comprising
4 a recombinant or synthetic antigen derived from hookworm, and
5 a pharmacologically acceptable carrier.

1 125. (Previously presented) The method of claim 124 wherein said composition includes
2 a cocktail of recombinant or synthetic antigens derived from hookworm, and,
3 a pharmacologically acceptable carrier.

1 126. (Previously presented) The method of claim 124, wherein said composition comprises at
2 least one larval stage antigen and at least one adult stage antigen.

1 127. (Previously presented) The method of claim 124, wherein said antigen is ASP-1, ASP-2,
2 MTP-1, 103 (SAA), 16, GST, or an antigen having at least 80% homology therewith.

1 128. (Previously presented) The method of claim 124, wherein said antigen is selected from the
2 group consisting of GST, CP-2, APR-1, APR-2, MEP-1, TMP, or an antigen having at least 80%
3 homology therewith.

1 129. (Previously presented) The method of claim 124, wherein a species of said hookworm is
2 selected from the group consisting of *Necator americanus*, *Ancylostoma caninum*, *Ancylostoma*
3 *ceylanicum*, and *Ancylostoma duodenale*.

1 130. (Previously presented) The method of claim 124, further comprising the step of chemically
2 treating a hookworm- infected patient prior to said step of administering.

1 131. (Previously presented) A nucleotide sequence represented by SEQ ID NO: 76.

1 132. (Previously presented) An amino acid sequence represented by SEQ ID NO: 77.

1 133. (Previously presented) A composition comprising,
2 recombinant or synthetic APR-1 antigen,
3 an adjuvant, and
4 a pharmacologically acceptable carrier.

1 134. (Previously presented) The composition of claim 98, wherein said composition comprises
2 APR-1 antigen and an adjuvant.

1 135.(Previously presented) The method of claim 103, wherein said recombinant of synthetic
2 antigen is APR-1, and said composition further comprises an adjuvant.

1 136. (Previously presented) The method of claim 110, wherein said recombinant of synthetic
2 antigen is APR-1, and said composition further comprises an adjuvant.

1 137. (Previously presented) The method of claim 117, wherein said recombinant of synthetic
2 antigen is APR-1, and said composition further comprises an adjuvant.